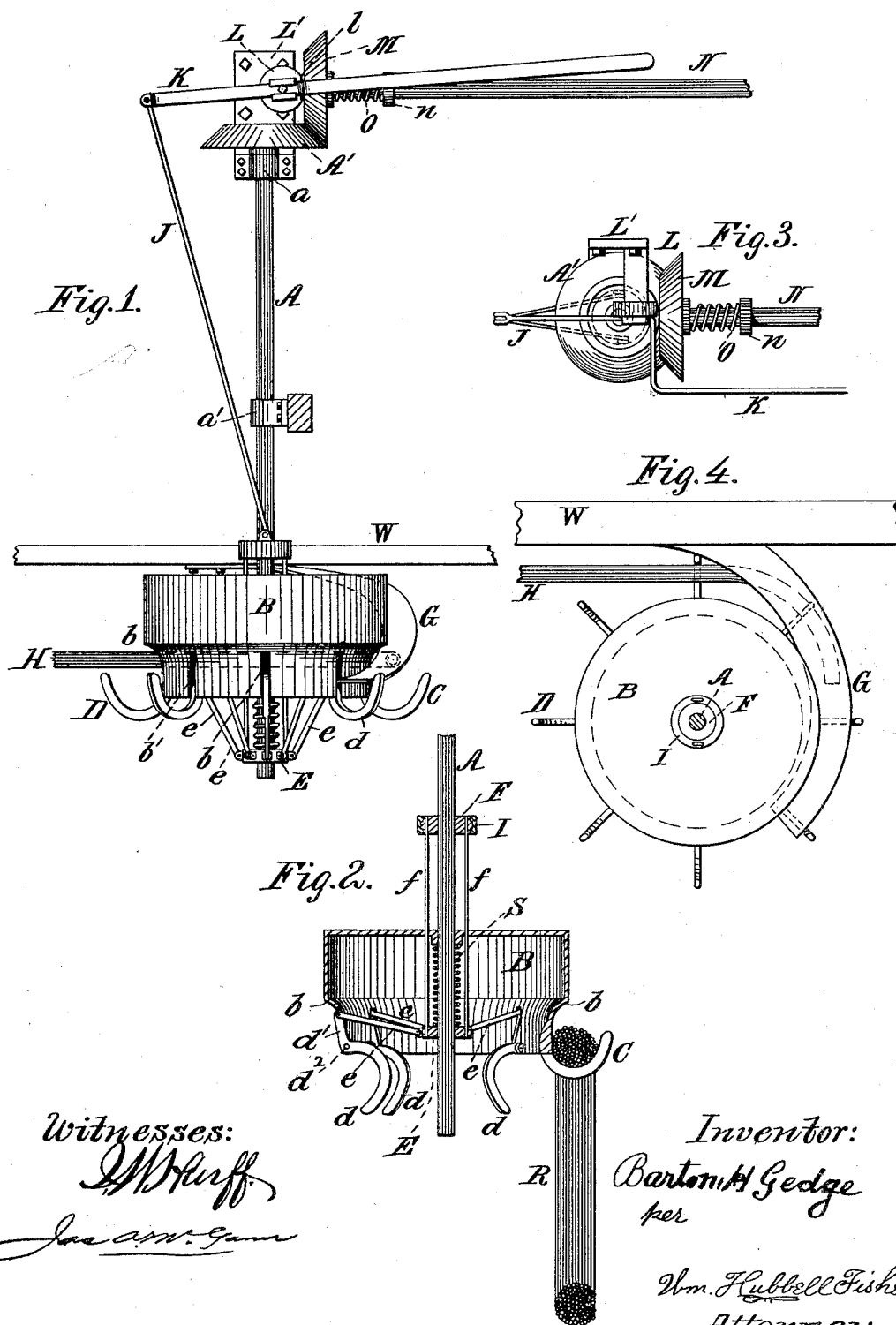


(No Model.)

B. H. GEDGE.  
MACHINE FOR COILING WIRE RODS.

No. 458,572.

Patented Sept. 1, 1891.



Witnesses:

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# UNITED STATES PATENT OFFICE.

BURTON H. GEDGE, OF ANDERSON, INDIANA.

## MACHINE FOR COILING WIRE RODS.

SPECIFICATION forming part of Letters Patent No. 458,572, dated September 1, 1891.

Application filed November 15, 1889. Serial No. 330,494. (No model.)

### *To all whom it may concern:*

Be it known that I, BURTON H. GEDGE, a citizen of the United States, and a resident of the city of Anderson, in the county of Madison and State of Indiana, have invented certain new and useful Improvements in Machines for Coiling Rods, of which the following is a specification.

The several features of my invention and the advantages arising from their use, conjointly or otherwise, will be apparent from the following description.

In the accompanying drawings, forming part of this specification, Figure 1 is an elevation of the device. Fig. 2 is a central vertical section of the lower part of the device. Fig. 3 is a top view of the upper part of the device. Fig. 4 is a top view of the lower part of the device, the upper part being removed.

The shaft A is suspended in bearings *a a'*, attached to suitable supports. At its upper end it has the beveled friction-gear A'. The drum B is centered on the shaft A. It is cylindrical in shape and its lower portion is preferably contracted, forming an arched space under the shoulder *b*. In the lower portion of the drum B a suitable number of slots *b'* are cut. Each hook D has two parts made in one—viz., curved portion or finger *d* and the straight portion or arm *d'*, which projects from the end of the finger *d* at an angle. Each hook D is pivoted at the angle *d'* in one of the slots *b'*. In place of one of the movable hooks D, the hook C is rigidly attached to the drum B, as indicated in Fig. 2. From each of the arms *d'* a connecting-rod *e* extends to the movable collar E, surrounding the shaft A. The collar E is united to the collar F by any suitable means, preferably rods *f*. The collar F is placed far enough up on the shaft A to be at all times above the drum B. Between the top of the drum B and the collar E on the shaft A an expanding-spring S is placed.

In Figs. 1 and 4 a brace W is shown as a means of support to the helical guide G, which curves around and downwardly about the drum B into the space formed by the hooks D. The pipe H is the conduit through which the wire or rod passes from the mill to the coiling-machine.

Returning now to the collar F, we find it

surrounded by an outlying collar I. These two collars are united by a feather-and-groove joint, which permits the inner collar to rotate with the shaft A without imparting its motion to the collar I. The connecting-rods J extend from the collar I to the lever K, which latter is attached to the cam L and has for its fulcrum the pivot of the said cam. The cam L is pivoted to the bearing L'. It is a circle with a flattened face *l*, which bears against the friction-wheel M when the collar I is pushed down to its lowest limit. The beveled friction-gear M is feathered on the driving-shaft N, and is held against the friction-wheel A' by means of a spring O, compressed between the wheel M and the stationary collar *n*.

The mode of operation of the device is as follows: Motion is imparted to the shaft N, and through it to the shaft A, which causes the drum B and the parts attached to it to rotate. Preferably this motion is very rapid. A rod from the mill is fed to the machine through the conduit H. This rod impinges against the guide G, which directs it into the gutter formed by the hooks D, the guide also serving to prevent the rod springing up and out of the hooks. The hooks D move so rapidly that the gutter formed by them is practically solid. The rod is fed to the coiler very rapidly, and it is necessary for the latter to turn at least as rapidly as the rod is fed to it, and preferably a little more rapidly. As the rod is fed to the coiler it is carried around and around by the hooks, slipping a little until a sufficient number of coils have collected to make it bind on the reel, when the coils are tightened, and, increasing in number, a bundle is formed. When the machine turns faster than the rod is fed to it, the tightening of the rod holds the drum B back and causes the friction-wheel A' to slip on the friction-wheel M, thus preventing the stretching or breaking of the rod. When the bundle is completed, the handle of the lever K is depressed slightly. This movement forces the cam L against the friction-wheel M, and, moving it slightly away from the friction-wheel A', permits the shaft A and its attachments to slow down and stop. The handle of the lever K is now still further depressed, with the effect of raising the collars F and E and dropping the hooks D. This drops the coil R, which

remains hanging on the stationary hook C, from which it may be removed by tongs or other suitable means.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the revolving shaft A, drum B, hooks D, having curved fingers *d* and arms *d'* and pivoted to the drum B, connecting-rods *e*, collars E and F, rods *f*, and rod for raising and lowering collar F, substantially as and for the purposes specified.

2. The combination of the revolving shaft A, drum B, hooks D, having curved fingers *d* and arms *d'* and pivoted to the drum B, connecting-rods *e*, collars E and F, spring S, rods *f*, and rod for raising and lowering collar F, substantially as and for the purposes specified.

3. The combination of the revolving shaft A, drum B, hooks D, having curved fingers *d* and arms *d'* and pivoted to the drum B, connecting-rods *e*, collars E and F, spring S, rods *f*, collar I, rod J, and lever K, substantially as and for the purposes specified.

4. The combination of the revolving shaft A, friction-gear A', drum B, hooks D, having curved fingers *d* and arms *d'* and pivoted to the drum B, connecting-rods *e*, collars E and F, spring S, rods *f*, collar I, rod J, lever K, cam L, having face *l*, shaft N, having collar *n*, friction-gear M, and spring O, substantially as and for the purposes specified.

BURTON H. GEDGE.

Attest:

F. W. BROWNE,  
G. H. W. PAVER.